

REMARKS

The Office Action dated November 30, 2005, has been received and carefully noted. The Applicants respectfully request reconsideration of this application in view of the foregoing amendment and the following remarks.

By the foregoing amendment, claims 1 and 6 have been amended. Claims 5 and 10-21 have been withdrawn from consideration. Thus, claims 1-4 and 6-9 are currently pending in the application and subject to examination. Applicants submit that no new matter has been added.

Election of Species

Applicants filed a response to the Election Requirement on August 23, 2005, electing Species I, directed to claims 1-4 and 6-9, with traverse. However, the current Office Action acknowledges an election of Species II, associated with Figure 6, and claims 6-12, 24-30, 38, and 41). The error appears to merely be typographical in nature; however, Applicants respectfully request acknowledgement of the proper election of Species I, claims 1-4, and 6-9, in the next Official Action.

Rejection Under 35 U.S.C. § 102(b)

Claims 1, 2, 4-7, and 9 are rejected under 35 U.S.C. § 102(b) as being anticipated by Maenaka et al. (U.S. Patent No. 5,552,827, hereinafter "Maenaka"). To the extent this rejection remains applicable to the claims currently pending, Applicants respectfully traverse the rejection.

Claim 1, as amended, recites a color separation circuit of a single chip color camera for subjecting a signal from a solid-state image pick-up device having a plurality

of types of color filters which differ in spectral sensitivity characteristics arranged therein, respectively, so as to correspond to pixels to color separation processing, comprising a plurality of types of interpolation processing means for respectively producing a plurality of chrominance signal components at the arbitrary pixel to be processed and suitable for a case where there is a strong correlation in each of a plurality of directions centered at the pixel to be processed from the chrominance signal components at the pixel to be processed and the pixels around the pixel to be processed. Claim 1 further sets forth correlated value detection means for detecting the direction in which there is a strong correlation out of the plurality of types of directions centered at the pixel to be processed on the basis of the chrominance signal components at the pixel to be processed and the pixels around the pixel to be processed, and means for finding the plurality of chrominance signal components at said pixel to be processed on the basis of the direction in which there is a strong correlation which is detected by the correlated value detection means and each of the chrominance signal components produced by the interpolation processing means. Claim 1 also recites digital gain control means for separately controlling a gain for each of the color filters being provided in a stage preceding the correlated value detection means, the correlated value detection means detecting the direction in which there is a strong correlation out of the plurality of types of directions centered at the pixel to be processed on the basis of signals at all the pixels in a block composed of M by N pixels, centered at the pixel to be processed which are inputted through the gain control means.

Applicants respectfully submit that Maenaka fails to disclose or suggest all the elements of the claimed invention. Specifically, Maenaka fails to disclose or suggest at least a “digital gain control means for separately controlling a gain for each of the color filters being provided in a stage preceding the correlated value detection means,” as set forth in claim 1.

The Office Action takes the position that this feature is taught by the automatic gain control (AGC) 32 of Maenaka. However, the automatic gain control 32 of Maenaka merely applies automatic gain control for the analog signal received from the horizontal transfer portion (see Maenaka, Fig. 2, and col. 3, lines 48-53). Further, the automatic gain control of Maenaka cannot separately control a gain for each of the color filters, as set forth in amended claim 1. In contrast, the automatic gain control 32 of Maenaka merely receives an electric signal outputted from a correlation double sampling circuit, and sends the signal to an analog-to-digital converter (see Maenaka, Fig. 2). As such, Maenaka fails to disclose or suggest all the elements of amended claim 1.

Independent claim 6, as amended, sets forth at least a “digital gain control means for separately controlling a gain for each of the color filters being provided in a stage preceding the correlated value detection means.” As discussed above with respect to claim 1, Maenaka fails to disclose or suggest at least this feature of amended claim 6.

To qualify as prior art under 35 U.S.C. § 102(b), a single reference must teach, i.e., identically describe, each feature of a rejected claim. For the reasons provided above, Applicants respectfully submit that Maenaka does not teach or suggest each and

every feature recited by amended claims 1 and 6. Accordingly, amended claims 1 and 6 are not anticipated, nor rendered obvious in view of, Maenaka.

As such, Applicants respectfully submit independent claims 1 and 6 should be deemed allowable. As claims 1 and 6 are allowable, Applicants submit that claims 2, 4, and 5, which depend from claim 1, and claims 7 and 9, which depend from claim 6, are likewise allowable over the cited prior art for at least the same reasons claims 1 and 6 are allowable, as well as for the additional subject matter recited therein.

Rejection Under 35 U.S.C. § 103(a)

Claims 3 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maenaka in view of Nakayama (U.S. Patent No. 4,750,032). To the extent this rejection remains applicable to the claims currently pending, Applicants respectfully traverse this rejection.

Claim 3 depends from independent claim 1, and claim 8 depends from independent claim 6, incorporating by reference all of the subject matter of the underlying independent claims, as well as containing additional subject matter recited therein.

As discussed above, Maenaka fails to teach or disclose all the elements of amended claims 1 and 6. Specifically, Maenaka fails to teach at least “digital gain control means for separately controlling a gain for each of the color filters being provided in a stage preceding the correlated value detection means,” as set forth in both amended claims 1 and 6. Neither Maenaka nor Nakayama, alone or in combination, cure the deficiencies outlined above.

The Office Action cites Nakayama as teaching an automatic white balance adjusting system for a color video camera that uses an automatic gain controller 6 and 7 for red and blue signals and a matrix for a luminance signal (see Office Action, page 5, numbered paragraph 5).

However, Applicants respectfully note that Nakayama fails to disclose or suggest "digital gain control means for separately controlling a gain for each of the color filters being provided in a stage preceding the correlated value detection means," as set forth in amended claims 1 and 6. In other words, Nakayama fails to overcome or otherwise address the deficiencies of Hirai with regards to claims 3 and 8.

To establish *prima facie* obviousness, each feature of a rejected claim must be taught or suggested by the applied art of record. See M.P.E.P. §2143.03. As explained above, Maenaka and Nakayama, alone or in any combination thereof, fail to teach or suggest each and every feature recited by amended claim 1 and amended claim 6.

Accordingly, Applicants submit that claims 3 and 8, which depend from claims 1 and 6, respectively, are allowable over the cited prior art for at least the same reasons that claims 1 and 6 are allowable, as well as for the additional subject matter recited therein.

Conclusion

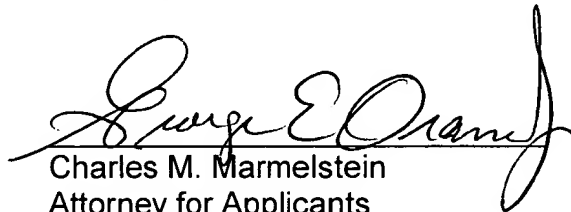
Applicants respectfully submit that this application is in condition for allowance and such action is earnestly solicited. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone

number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event that this paper is not considered to be timely filed, an appropriate extension of time is requested. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account Number 01-2300, referencing Docket Number 107314-00024.

Respectfully submitted,

Arent Fox PLLC

A handwritten signature in black ink, appearing to read "Charles M. Marmelstein", is written over a horizontal line.

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